CLAIMS:

What is claimed is

1. A method of converting an N-bit input in a linear scale to an M-bit output in a logarithmic scale comprising:

dividing the input range into a set of K subranges each defined by a number of bits of the N-bit input;

converting each of the subranges into a respective output that would be the M-bit output if the most significant set bit in the N-bit input was in the subrange;

determining from the N-bit input an indication of which of the subranges to select for an output; and

selecting the output of the converting step for the selected output as the M-bit output.

2. A method of converting as recited in claim 1, wherein the subranges are overlapping.

3. A method of converting as recited in claim 2, wherein the converting steps of the subranges occur in parallel.

4. A method of converting as recited in claim 3, wherein the determining step occurs in parallel with the converting steps.

5. A method of converting as recited in claim 2, wherein N is 16 and wherein there are 5-subranges, the four lowest order subranges comprising 5-bits of the input, and the highest subrange including 4 bits of the input.

6. A method of converting as recited in claim 2, wherein the N-bit input is an average power measurement determined from a set of samples received in a radio receiver.

7. A method of converting as recited in claim 6, wherein the M-bit output is for indexing a lookup table to set the gains of the radio receiver.

8. A converter to convert an N-bit input in a linear scale to an M-bit output in a logarithmic scale comprising:

a set of K converting means each for converting one of K sets of bits of the N-bit input, each set of bits defining a subrange of the N-bit input, each converting means for converting its respective subrange into a respective output that would be the M-bit output if the most significant set bit in the N-bit input was in the subrange;

indicating means having the N-bit input as an input, the determining means for indicating which of the subranges to select for an output; and

selecting means connected to the set of determining means, the selecting means for selecting the output of the converting means for the selected output as the M-bit output.

9. A converter as recited in claim 8, wherein the subranges are overlapping.

10. A converter as recited in claim 9, wherein the converting means carry out the converting in parallel.

11. A converter as recited in claim 10, wherein the indicating means indicates in parallel with the converting of the converting means.

12. A converter as recited in claim 9, wherein N is 16 and wherein there are 5-subranges, the four lowest order subranges comprising 5-bits of the input, and the highest subrange including 4 bits of the input.

13. A converter as recited in claim 9, wherein the N-bit input is an average power measurement determined from a set of samples received in a radio receiver.

14. A converter as recited in claim 13, wherein the M-bit output is for indexing a lookup table to set the gains of the radio receiver.

15. A converter to convert an N-bit input in a linear scale to an M-bit output in a logarithmic scale comprising:

a set of K subrange converters each coupled to a respective number of bits of the N-bit input that represents a subrange of the N-bit input, each subrange converter to convert the subrange into a respective output that would be the M-bit output if the most significant set bit in the N-bit input was in the subrange;

a range selector having the N-bit input as an input, to indicate which of the subranges to select for an output; and

a selector having as inputs the outputs of the subrange converters and coupled to the range selector to select the output of one of the subrange converters as the M-bit output.

16. A converter as recited in claim 15, wherein the subranges are overlapping.

17. A converter as recited in claim 16, wherein the subrange converters carry out the converting in parallel.

18. A converter as recited in claim 17, wherein the range selector indicates in parallel with the converting of the subrange converters.

19. A converter as recited in claim 16, wherein N is 16 and wherein there are 5-subranges, the four lowest order subranges comprising 5-bits of the input, and the highest subrange including 4 bits of the input.

20. A converter as recited in claim 16, wherein the N-bit input is an average power measurement determined from a set of samples received in a radio receiver.

21. A converter as recited in claim 20, wherein the M-bit output is for indexing a lookup table to set the gains of the radio receiver.